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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,207	09/01/2004	Jeffrey R. Martin	FLWP101US	5206

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EXAMINER	
KRISHNAMURTHY, RAMESH	
ART UNIT	**PAPER NUMBER**
3753	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/711,207	MARTIN ET AL.	
	Examiner	Art Unit	
	Ramesh Krishnamurthy	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This office action is responsive to communications filed 12/18/2006.

Claims 1 – 26 are pending.

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1 – 6, 8 – 12, 14, 16 – 22, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Lai (US 6,220,280) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lai (US 6,220,280) in view of Greenwood et al. (US 3,913,885).

Lai discloses (Figs, 1, 2A, 2B, 3A, 3B) a surge relief valve comprising: a main valve body (14) comprising a dome port (56) and an inlet port (38) wherein said inlet port is in fluid communication with a first fluid and an outlet port (42); a dome reservoir (16) connected to said main valve body but disposed remotely therefrom via said dome port and arranged to hold a second fluid that could be Nitrogen; a piston (58) located in said main valve body and comprising a piston in fluid communication with said reservoir, wherein said first fluid exerts an upward force on said piston, said second fluid exerts a downward force on said piston, and said piston is arranged to move in response to a differential in said upward and downward forces, wherein said first and second fluids are isolated from one another. A self-relieving pressure regulator (154) is connected to the main valve body via the dome reservoir (16). Lai discloses a piping arrangement (72) with a first end connected to the dome reservoir (16) and a second connected to the dome port (56). The disclosure of Lai is applicable to all types of first fluid including a process fluid that is a liquid that could further be either oil or petroleum oil. In claim 25, "wedge" is being regarded as a mere identifier.

It is noted that the arrangement disclosed by Lai necessarily performs the method recited in claims 17 – 22 in its usual and normal operation.

It is noted that in Lai the "sealing ring" (62) necessarily contacts the piston/cylinder surface in order to provide the sealing function therebetween. Thus, the contact between the surfaces involves friction that necessarily provides dampening of the piston movement. However, should it be determined that ring (62) is not a dampening ring, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a dampening wedge ring as taught by Greenwood et al. (wedge ring (60)) for the purpose of providing the desired dampening i.e. stabilized movement of the piston.

6. Claims 1 – 6, 8 – 15, 17 – 22 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Kugelev et al. (US 6,978,799) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lai (US 6,220,280) in view of Greenwood et al. (US 3,913,885).

Kugulev et al. discloses (Figs, 1 - 4) a surge relief valve comprising: a main valve body (13) comprising a dome port (33) and an inlet port (15) wherein said inlet port is in fluid communication with a first fluid and an outlet port (17); a dome reservoir (47) connected directly to said main valve body via said dome port and arranged to hold a second fluid that could be Nitrogen; a piston (25) located in said main valve body and comprising a piston in fluid communication with said reservoir, wherein said first fluid exerts an upward force on said piston, said second fluid exerts a downward force on said piston, and said piston is arranged to move in response to a differential in said upward and downward forces, wherein said first and second fluids are isolated from one another. A self-relieving pressure regulator (Fig. 1) is connected to the main valve body

via the dome reservoir (47). Kugulev et al. discloses a piping arrangement (55, 73) with a first end (73) connected to the dome reservoir (47) and a second connected to the dome port (33). The disclosure of Kugulev et al. is applicable to all types of first fluid including a process fluid that is a liquid which could further be either oil or petroleum oil (See Col. 1, lines 22 – 30, for example). In claim 25, "wedge" is being regarded as a mere identifier.

It is noted that the arrangement disclosed by Kugulev et al. necessarily performs the method recited in claims 17 – 22 in its usual and normal operation.

It is noted that in Kugulev et al. the "sealing ring" (29) necessarily contacts the piston/cylinder surface in order to provide the sealing function therebetween. Thus, the contact between the surfaces involves friction that necessarily provides dampening of the piston movement. However, should it be determined that ring (29) is not a dampening ring, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a dampening wedge ring as taught by Greenwood et al. (wedge ring (60)) for the purpose of providing the desired dampening i.e. stabilized movement of the piston.

7. Claims 7 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by Lai (US 6,220,280) or, in the alternative, under 35 U.S.C. 103(a) as obvious over the combination of Lai and Greenwood et al. as set forth above and further in view of Steinert et al. (US 5,174,326).

The patent to Lai discloses a pressure regulator (154) that is believed to maintain the second fluid at a specified pressure in response to changes in ambient temperature,

since the pressure regulator is stated (Col. 5, line 65 – Col. 6, line 2) to provide a constant pressure which here is taken to include under all known conditions including the commonly encountered ambient temperature changes.

However, should it be determined that the pressure regulator (154) in Lai or in the combination of Lai and Greenwood et al., does not maintain the second fluid at a specified pressure in response to changes in ambient temperature, it would have been obvious to provide such a feature since such is essential in using the system of Lai or that of Lai and Greenwood et al., under conditions where ambient temperatures could change, as evident from Steiner et al.

8. Claims 7 and 23 are rejected under 35 U.S.C. 102(e) as anticipated by Kugulev et al. (US 6,978,799) or, in the alternative, under 35 U.S.C. 103(a) as obvious over the combination of Kugulev et al. and Greenwood et al. as set forth above and further in view of Steinert et al. (US 5,174,326).

The patent to Kugulev et al. discloses a pressure regulator (Fig. 1) that is believed to maintain the second fluid at a specified pressure in response to changes in ambient temperature, since the pressure regulator is stated (Col. 5, lines 63 - 65) to provide a constant pressure which here is taken to include under all known conditions including the commonly encountered ambient temperature changes.

However, should it be determined that the pressure regulator (Fig. 1) in Kugulev et al. does not maintain the second fluid at a specified pressure in response to changes in ambient temperature, it would have been obvious to provide such a feature since such is essential in using the system of Kugulev et al. or the system of Kugulev et al.

and Greenwood et al. under conditions where ambient temperatures could change as evident from Steinert et al.

9. Claim 26 is rejected under 35 U.S.C. 103(a) as obvious over Lai or the combination of Lai and Greenwood et al. as set forth above and further in view of Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

The patent to Lai or combination of Lai and Greenwood et al. as set forth above discloses the claimed invention with the exception of explicitly disclosing the dampening ring to be made of graphite filled polytetrafluoroethylene (PTFE).

Geffroy teaches (Col. 2, lines 51 – 57) the use of graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Doose teaches (Col. 1, lines 30 – 40) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Scarlett teaches (Col. 2, lines 20 – 24) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Lai or in the combination of Lai and Greenwood et al. a dampening ring to be made of graphite filled polytetrafluoroethylene for the purpose of providing desired material properties capable of withstanding the operational

conditions, as recognized by either Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

10. Claim 26 is rejected under 35 U.S.C. 103(a) as obvious over Kugulev et al. or the combination of Kugulev et al. and Greenwood et al. as set forth above and further in view of Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

The patent to Kugulev et al. or combination of Kugulev et al. and Greenwood et al. as set forth above discloses the claimed invention with the exception of explicitly disclosing the dampening ring to be made of graphite filled polytetrafluoroethylene (PTFE).

Geffroy teaches (Col. 2, lines 51 – 57) the use of graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Doose teaches (Col. 1, lines 30 – 40) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

Scarlett teaches (Col. 2, lines 20 – 24) that it is known in the art to use a graphite filled PTFE ring for the purpose of providing desired material properties capable of withstanding the operational conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Kugulev et al. or in the combination of Kugulev et al. and Greenwood et al. a dampening ring to be made of graphite filled polytetrafluoroethylene for the purpose of providing desired material properties capable

of withstanding the operational conditions, as recognized by either Geffroy (US 3,917,290) or Doose (US 4,580,790) or Scarlett (US 6,428,014).

Response to Arguments

11. Applicant's arguments filed 12/18/2006 have been fully considered but they are not persuasive.

12. Regarding the argument that element (16) in Lai in not a reservoir as defined in the instant application, it is noted that limitations from the specification will not be read into the claims and in this office action, "reservoir" has been interpreted to mean a structure that holds a fluid. Also, in regard to the argument that Lai fails to disclose the claimed limitation of "said piston is in fluid communication with said reservoir", it is noted that in Lai, the piston (58) is indeed in communication with the reservoir (16) via (72).

13. Applicant's arguments concerning the dampening ring have been noted. Applicant's argument that the dampening ring (312) is disclosed in addition to the sealing rings (311, 313) whereas both Lai and Kugulev et al. teach only "sealing rings" is unpersuasive. In both Kugulev and Lai, the sealing ring(s) necessarily contact the piston/cylinder surface in order to provide the sealing function. Thus, the contact between the surfaces involves friction that necessarily provides dampening of the piston movement. As for the existence of sealing rings in addition to the dampening ring in the instant invention, it is noted while such is disclosed in the specification the sealing rings are not presently recited in the claims rendering moot any argument(s) related thereto.

14. The argument that in Lai and Greenwood et al., the movement of the piston is by means of the pressure difference between a first fluid and the spring is unpersuasive.

The movement in Lai is primarily because of the difference in fluid pressures across the piston (58). Greenwood et al. supplies the teaching for a dampening ring as set forth above should it be determined that Lai lacks such dampening ring.

15. Regarding the argument that in Kugulev, the second fluid provides both upward and downward force on the piston whereas in the instant invention the second fluid exerts a downward force only on the piston is unpersuasive in that the limitation "only" is not presently recited in the claims.

16. Regarding the other references – Steinert et al., Geffroy, Doose and Scarlett -, it is noted that the response does not address the teachings in these references that have been relied upon in formulating some of the rejections set forth above.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel, can be reached on (571) 272 – 4929. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramesh Krishnamurthy

Ramesh Krishnamurthy, Ph.D., PE
Primary Examiner
Art Unit 3753